



Unleashing the potential of potato to increase food security in Uganda



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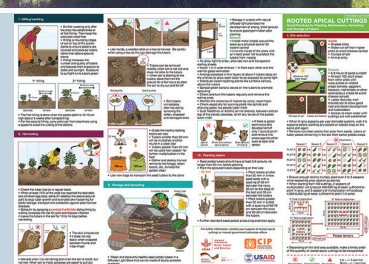
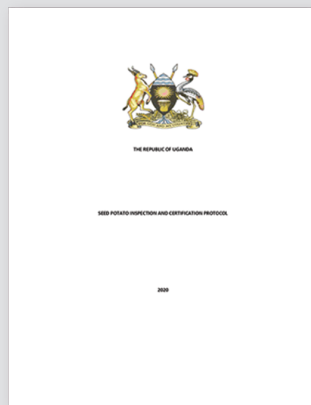
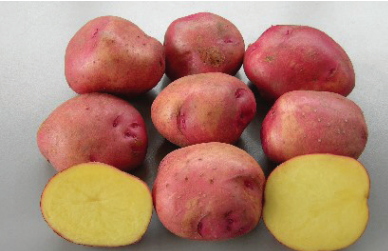
Potato is a key food and cash crop in Uganda and can greatly contribute to reducing rural poverty. Traditionally grown by smallholder farmers in the southwestern, western, and eastern highlands of the country, its production has recently expanded to low- and midland areas in central and northwestern Uganda. According to FAO, Uganda's national potato production grew from 167,000 to 182,000 metric tonnes (t) between 2010 to 2019 to respond to an increasing demand and consumption, mainly driven by population growth and rapid urbanization. This increase in production has been obtained by expanding the land cultivated from 35,000 to 44,000 hectares (ha) rather than by increasing productivity. Currently, the overall productivity of potato in Uganda is estimated at 3-7.5 t/ha, much below the realizable yields of 20-30 t/ha. This low productivity is mainly due to the use of poor-quality seed and limited knowledge and application of good agricultural practices (GAP) by potato farmers and negatively impacts the national food security.

Potato in Uganda is primarily traded as fresh ware potato with minimal value addition. Most potato is sold immediately after harvest to local middlemen or traders then onto wholesalers, retailers, restaurants, hotels, and fast-food kiosks. Industrial crisps processors constitute a small but stable business. Seasonal mismatches between demand and supply lead to high price fluctuations that negatively affect most actors along the potato value chain, particularly when the supply exceeds demand. Postharvest losses along the value chain are estimated at $\approx 36\%$, or a total volume of approximately 65,500 t of food loss in 2019. These losses are mainly due to diseases, careless handling, poor transport means and inadequate storage conditions.

The International Potato Center (CIP) is an agricultural research-for-development organization with a focus

on potato and sweetpotato. We deliver innovative science-based solutions to enhance access to affordable nutritious food, foster inclusive sustainable business and employment growth, and resilience for root and tuber agri-food systems. Headquartered in Lima, Peru, CIP has programs in Africa, Asia and Latin America and is a member of the One CGIAR, a global agricultural research partnership for a food secure future. CIP has a half-century of success in Africa, supporting institutions and partners to uplift smallholder farmers and vulnerable communities through potato and sweetpotato systems. CIP collaborates with national governments, public institutions and extension services, development partners, the private sector, as well as farmers and their institutions to develop and implement robust and science-based interventions.

Together with its local and international partners, CIP has contributed to the development of the Ugandan potato sector. Innovations promoted by CIP over the last years include the introduction of robust potato varieties, rapid multiplication technologies for early generation seed production, the promotion of seed potato production by private seed businesses to increase supply, the development of seed potato inspection and certification guidelines, the deployment of diagnostic tools for several diseases, and capacity building of value chain actors in good potato management practices and collective action. Some challenges, however, remain, e.g., focus of interventions concentrated on few and more traditional potato producing areas, lack of implementation of adequate seed potato quality assurance mechanisms and sound production planning to meet cost-effectively seed targets and demand, low adoption rate of newly released improved varieties and GAP by farmers, and selling of potato mainly on an individual basis by farmers with little bargaining power.



Support to the introduction of robust potato varieties

Innovative technologies and tools to increase quality seed potato supply

Seed Potato Inspection and Certification Protocol 2020 to allow seed potato quality assurance

Promotion of good potato management practices

Innovations spearheaded by CIP in collaboration with local and international partners

To tackle partly these challenges, CIP is keen to offer its expertise and experience in the following fields of action:

- **Field of action 1:** supporting the seed system development in the Rwenzori, West-Nile, and Karamoja sub-regions; key to developing the local potato sector and fully exploiting its potential to contribute to increased food security, this field of action will bring together, through capacity building and the introduction of innovative technologies, public and private stakeholders to solve seed supply bottlenecks while aligning with local ongoing initiatives;
- **Field of action 2:** supporting the implementation of the Seed Potato Inspection and Certification Protocol 2020; key to reduce the spread of seed-borne diseases and to allow an increased seed potato production according to the standards prescribed, this field of action will generate experience to make the protocol work for the Uganda potato seed system characterized by its small-scale private nurseries and dispersed seed multipliers;

- **Field of action 3:** promoting newly released improved varieties and farmers' capacity building in GAP for potato production; key to improve farmers' knowledge in potato farming, this field of action will expose them, through trainings, the installation of demonstration plots and the organization of field days to promote peer-to-peer learning, to the impact on yield of using improved varieties and applying sustainable agricultural practices;
- **Field of action 4:** supporting farmers' organizational and market system development; key to improve farmers' collective action and access to lucrative markets, this field of action will enable committed farmer groups, through capacity building, technical backstopping in seed production and quality assurance as well as the promotion of digital tools, to graduate to certified seed production and marketing, complying with seed regulations and certification protocols. Refer to Box 1 for an example of an effective farmer organization CIP supported the development of in Kenya.

Box 1: Nandi Potato Farmers' Cooperative Society in Kenya

The Nandi Potato Cooperative is a model in cooperative formation and development in collaboration with the county government. The cooperative was officially registered within six months of inception, reaching 2,000 members four years later. The cooperative produced certified seed as an outgrower and in 2021 acquired the seed merchant license from KEPHIS. The cooperative has 1,600 members who have paid the membership fee, among which 100 are fully paid having bought shares into the cooperative. A cooperative manager and agronomist to manage certified seed production are on payroll. The cooperative has secured several market linkages in Kenya and has clients in Tanzania.

Nandi County has supported the cooperative through purchasing seed produced by the coop for farmers valued at USD 12,000. The county also supported access to basic seed to produce certified seed valued at USD 11,000 and lends machinery to the cooperative for mechanized seed production. This is a testament to rapid development and growth of Nandi Potato Cooperative, particularly as Nandi was a county where potato was not grown prior to AVCD interventions.



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